

REMARKS/ARGUMENTS

This amendment is respectfully submitted in response to the non-final Office Action dated May 4, 2004.

I. **Introduction**

Claims 10-16 and 22-25 have been canceled in response to a restriction requirement. Claims 1, 4, 7, 8, 17 and 18 have been amended. Claim 26 has been added. Accordingly, Claims 1-9, 17-21 and 26 are now pending. Applicant preserves the right to pursue the canceled claims in a divisional application.

Claim 17 has been amended to correct a typographical error and to clarify the claim.

The amendments to the claims are supported by the summary and elsewhere in the application.

Claims 1-6 and 17-21 stand rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,881,145 to Giuhat et al. (hereinafter "the Giuhat et al. patent") in view of U.S. Patent No. 6,021,126 to White (hereinafter "the White patent"). Additionally, claims 7-9 stand rejected under 35 U.S.C. 103(a) as being unpatentable over the Giuhat et al. patent in view of the White patent, and further in view of U.S. Patent No. 6,243,374 to White (hereinafter "the White2 patent").

As will be discussed below, the Giuhat et al. patent which discusses issues relating to porting of telephone numbers between two conventional type telephone networks does not discuss an Internet protocol network. Furthermore, this reference does not teach, suggest or disclose the features of the present invention

which are directed to issues of routing calls to an IP network using a telephone number which has been ported from the telephone network to the IP network.

While the White patent describes how to route a call to an IP network, the Examiner relies not on the White patent's teachings of how to route calls to an IP network but instead cites portions of the White patent which describe how to route calls between telephone devices in a conventional telephone network using a ported telephone number, e.g., a telephone number ported between a LEC and a CLEC, using information obtained from an Internet database. As will be discussed below, when the teachings of the White patent (See Fig. 7 and corresponding description col. 13-col. 14) regarding completing calls to the Internet are considered, it will be appreciated that the White patent teaches away from the present invention. The Examiner has not given any reason why the teachings of the White patent regarding how to route calls to the Internet which is an IP network should be disregarded or why they should be modified in view of Giuhat et al. patent. Applicant believes that the Examiner's failure to appreciate the White patent's teachings in this regard may be the result of some confusion as to the fact that White patent teaches handling of calls to be completed through the IP network differently from calls to be completed via the telephone network, e.g., LEC or CLEC without going through the Internet. To facilitate the Examiner's understanding of the White patent it is discussed at length below.

Neither the White patent nor the White2 patent describe providing AIN services in response to a second trigger set at a second switch in regard to a call which will be routed over an IP network. Accordingly, while the White2 patent describes various AIN services, it fails to anticipate or render obvious any of the pending claims when considered alone or in combination with the other applied references.

Furthermore, as will be discussed below, the White patent, by teaching the obtaining of Internet routing information from a Gateway Router instead of an SCP,

teaches away from obtaining such information by contacting an SCP. In addition, it should be noted that by teaching the use of a separate Gateway switch, the White patent teaches away from having a telephone switch which includes circuitry for packetizing calls and for routing calls to an Internet Protocol network as recited in various claims.

As will be discussed below in detail, none of the pending claims are anticipated or rendered obvious by the applied references whether considered alone or in combination. In fact, the references teach away from the claimed invention.

II. Summary of the Invention and Discussion of the Applied References

1. Summary and Discussion of the Invention

The present invention is directed to methods and apparatus for handling situations where a PSTN customer has ported one or more telephone numbers to a Voice Over IP (VOIP) network. Various features of the invention are directed to supporting the routing of ported calls to a VOIP network using a ported telephone number without having to provide VOIP connectivity from the switch from which the telephone number was ported. Other features of the present invention are directed to providing a telephone service subscriber who has ported a telephone number with AIN services, e.g., call screening, call forwarding, etc. provided by the PSTN network using AIN capabilities, e.g., prior to a call originating in the PSTN being routed to the ported number. In this manner, the service subscriber who has ported a telephone number to the VOIP network can continue to receive AIN services which he/she was receiving before the porting of the telephone number.

In order to provide one or more of the above described features, the present invention uses, in some embodiments, line number portability capabilities in combination with gateway router functionality that allows the gateway router to provide AIN services, e.g., prior to a call corresponding to a ported telephone

number being routed to the VOIP network. In accordance with some embodiments of the invention, a first trigger is set at a first switch, e.g., an LNP trigger, which will be activated by a call to a ported number. In response to activation of the first trigger, the first switch sends a signal to an SCP which responds by providing a second telephone number to be used to route the call, e.g., to a gateway switch which has VOIP network connectivity. The second switch, in response to receiving the call, uses the first telephone number to route the call, e.g., to the VOIP network. This may involve, e.g., determining from the first telephone number an IP address to be used to route the call through an SCP request for call processing instructions. As part of the routing process, a second AIN trigger, e.g., a terminating attempt trigger, corresponding to the first telephone number set at the second switch will normally be activated. The second switch, e.g., the Gateway router, will seek call processing instructions from an SCP, e.g., a second SCP, in response to activation of the second trigger. The SCP, prior to directing the call to be forwarded to the VOIP network and providing IP routing information may, and in various embodiments does, provide call forwarding, call screening and/or other AIN services prior to the call being routed to the VOIP network. Thus, the user of the first telephone number can still receive AIN based services despite the fact that the number was ported to the AIN network. The SCP may also obtain information from the VOIP network and control call completion as a function of the received information.

The above described approach to handling calls to telephone numbers which have been ported to a VOIP network has the advantage of avoiding the need to provide VOIP network connectivity at each telephone switch in a network and of allowing a user of a ported number to continue to receive AIN based services, e.g., AIN based call screening and/or Centrex services which the subscriber was receiving prior to the telephone number being ported to the AIN network.

2. The Giuhat et al. Patent

In the Office Action the Examiner recognizes that Giuhat et al. does not disclose a second switch connected to an Internet Protocol Network. (Office Action Page 4). Applicants respectfully submit that this is because Giuhat et al. does not discuss or describe porting to telephone numbers to an VOIP network or routing calls to such a network.

In contrast to the present invention, the Giuhat et al. patent discloses a method of routing calls to a directory number which has been ported **from one conventional telephone network to another conventional telephone network**, e.g., a number ported between a CLEC and a TELCO where each of the CLEC and TELCO include an SCP, STP and SSPs. (See Fig 1). **The Giuhat et al. patent does not discuss or describe a VOIP network or providing AIN services to a ported number prior to a call being routed to the VOIP network.**

In the Giuhat et al. patent, the method of routing a call to a ported directory number includes routing the call using the ported directory number as the called party number from an originating network node towards the donor network node from which the number has been ported, intercepting the call at an intermediate node between the originating network node and the donor network node, converting the ported directory number/called party number to a network address of the recipient network node to which the number has been ported, and routing the call to the recipient network node using said network address; and at the recipient network node, completing the call to the ported directory number.

3. The White and White2 Patents

The White and White2 Patents are directed to systems where a telephone network is provided with an Internet connection and where a Gateway Router is used to provide access to an Internet Database (35) which includes call routing

information. In each of the systems, AIN triggers are NOT set at the Gateway Router but rather at switches, e.g., end office SSPs, which launch TCAP queries to the Internet Gateway Router.

The White Patent indicates that a preferred way of routing telephone numbers ported to a CLEC end office:

...involves querying a routing database by the originating office for all calls to an NPA-NXX from which any number (s) have been ported. The database returns a Local Routing Number (LRN) for use in routing the calls to the correct CLEC end office 15. The logical side for such a database in an implementation ... would be in the signal control point (SCP) or an integrated signal control point (ISCP) 21. (See col. 8, lines 41-51)

The White Patent goes on to indicate:

...not all local exchange carriers currently operating in the United States have advanced intelligent networks (AINs), SCPs or ISCPs ...

According to the invention the network is provided with an Internet Gateway Router (IGR) 31, which is connected to the STP 19 by a data link to the Internet, ... the database 35 stores telephone number translations of the same general type as the ISCP database in addition to Internet addresses. (See, col. 10, lines 6-50).

Fig. 7 and the corresponding text of the White patent illustrates the method by which a call is completed to a telephone number which has been ported to the Internet (as opposed to the CLEC) in the White system.

Notably, the White patent teaches that the Internet Gateway Router should respond to messages from a switch seeking call processing information relating to telephone numbers ported to an IP network (the Internet) by retrieving an Internet address corresponding to the ported number from an Internet Database. A service control point is not involved in this process. The Gateway Router 31 then transmits a message to the destination Gateway router to which the Internet address corresponds. If the called party is available, linkage

from the originating Gateway router to the destination Gateway router is established (see Step S11) of Fig. 7. Then, a voice path is established (see step S12). This established voice path may be established through an end office 29 which is coupled to the originating Gateway Router 31. (See col. 13, lines 37 through col. 14, line 14).

Notably, in the White system, the Internet Address to be used to route a call has already been determined by the time the call is directed to the end office 29 through which the voice connection to the originating Gateway Router 31 is established. In fact, this voice connection will not be made if the Gateway Router determines that the called party is not available.

Notably, in the White system, the second switch EO 29 in the White system involved in routing a call to the Internet does not contact an SCP to obtain Internet routing instructions given that the Internet Protocol address to be used for call completion has already been determined by the time call is routed to the EO 29. In addition, it should be noted that the Gateway Router 31 is responsible for call packetization and not the end office switch EO 29. (See col. 39-44).

Neither the White patent nor the White2 patent describe providing AIN services in response to a second trigger set at a second switch in regard to a call which will be routed over an IP network. Accordingly, while the White2 patent describes various AIN services, it fails to anticipate or render obvious any of the pending claims when considered alone or in combination with the other applied references. Furthermore, the services described in the White2 patent are not described as being services which were provided to a subscriber whose number is ported both before and after porting of the telephone number to an Internet Protocol Network.

The discussion of dealing with telephone numbers ported to the Internet can be found in the patent in col. 13, starting at line 36 through col. 14. Note that this

discussion follows the examples where a number is ported to a CLEC relied upon by the Examiner to reject the claims.

III. The Pending Claims Are Patentable

1. Claims 1-6 and 26 Are Patentable

As discussed above, the Giuhat et al. patent does not disclose an Internet Protocol Network. While the White patent discloses first and second switches, e.g., switches 13 and 29, it describes obtaining IP routing information from a Gateway Router 31 prior to connecting the call to the second switch 29 and expressly teaches away from using an SCP to obtain routing information. Accordingly, the White as well as the White2 Patent teach away from the subject matter of claim 1 by teaching away from the claimed method and teaching a very different method for routing calls to an IP network, i.e., the Internet.

Claim 1 and claims 2-6 and 26 which depend therefrom are patentable because claim 1, as amended, recites:

Claim 1 (currently amended): A method of servicing telephone calls using an Internet protocol network and a telephone network the telephone network including first and second telephone switches each being coupled to at least one service control point, the second telephone switch being coupled to the first telephone switch and the Internet Protocol network, the method comprising the steps of:

pausing processing of a telephone call directed to a first telephone number at said first telephone switch, in response to activation of a first trigger set at said first telephone switch, the first trigger being activated by a call directed to a telephone number including a digit string matching at least a portion of said first telephone number;

obtaining a call processing instruction including a second telephone number corresponding to said second telephone switch from a service control point;

forwarding the call to the second telephone switch using the second telephone number as a called party number for purposes of routing said telephone call; and

operating the second telephone switch, in response to receiving the forwarded call, to:

i) replace the second telephone number with the first telephone number;

ii) contact a service control point to obtain call routing information corresponding to said first telephone number; and

ii) route the telephone call to the Internet Protocol network using Internet Protocol routing information returned by said service control point.

2. Claims 7-9 Are Patentable

Claim 7 is patentable since, alone or in combination, none of the references cited by the Examiner teach, disclose or suggest providing an AIN based call forwarding or Centrex service to a telephone service subscriber at a second telephone switch to which a call which was ported to an IP Network has been forwarded prior to routing to the IP network.

In particular claim 7 and claims 8-9 which depend therefrom are patentable because claim 7 recites:

A method of servicing telephone calls using an Internet protocol network and a telephone network the telephone network including first and second telephone switches each being coupled to at least one service control point, the second telephone switch being coupled to the first telephone switch and the Internet Protocol network, the method comprising the steps of:

pausing, at said first telephone switch, processing of a telephone call directed to a first telephone number corresponding to a called party, said pausing being in response to activation of a first trigger set at said first telephone switch, the first trigger being activated by a call directed to a telephone number including a digit string matching at least a portion of said first telephone number;

obtaining a call processing instruction including a second telephone number corresponding to said second telephone switch from a service control point;

forwarding the call to the second telephone switch using the second telephone number as a called party number for purposes of routing said telephone call; and

operating the second telephone switch to:

- i) replace the second telephone number with the first telephone number;
- ii) pause processing of said telephone call, in response to activation of a second trigger set at said second telephone switch which is responsive to at least a portion of said first telephone number; and
- iii) **contact a service control point in response to activation of said second trigger; and**
 - operating the service control point to provide at least one advanced intelligent network service subscribed to by the called party, said service being one of a call screening and a Centrex service; and**
 - operating the second telephone switch to route the telephone call to the Internet Protocol network using an Internet Protocol address corresponding to the first telephone number after said service control point provides said at least one advanced intelligent network service.

3. Claims 17-21 Are Patentable

As discussed above, the Giuhat et al. does not disclose an Internet Protocol Network. The White and White2 patents teach away from having end office switches perform packetization of a call as part of the process of communicating the call to an IP network and teach the use of Gateway Routers which are separate from the end office switches to provide this functionality. Accordingly, the applied references teach away from the subject matter of claim 17 wherein a second telephone switch includes "circuitry for packetizing calls and for routing calls to the Internet Protocol network".

Claim 17 and claims 18-21 which depend there from are patentable because claim 17, as amended, recites:

A communications system comprising:
an Internet Protocol network including an Internet Protocol telephony device, a first telephone number being associated with said telephony device to be used for routing telephone calls to said telephony device; and

a public switched telephone network, the public switched telephone network including:

- i) a first telephone switch to which calls from other telephone switches in the public switched telephone ~~number~~ network directed to said first telephone number are routed, a second trigger being set at said first telephone switch which is responsive to calls directed to a telephone number having at least a portion of which is the same as the first telephone;
- ii) a second telephone switch coupled to the first telephone switch and to the Internet Protocol network, the second telephone switch including circuitry for packetizing calls and for routing calls to the Internet Protocol network;
- iii) a service control point coupled to said first telephone switch, the service control point including logic for controlling the first telephone switch to forward calls directed to said first telephone number to the second telephone switch after activation of said trigger set at said first telephone switch.

Therefore, it is respectfully submitted that the Examiner withdraw the rejection of these claims.

4. **Additional reasons the Dependent Are Patentable**

A. **Claim 8**

Applicant respectfully submits that claim 8 is further patentable over the White references which do not discuss providing AIN services which were provided prior to porting of a telephone number after porting of a telephone number to an IP network because claim 8, as amended, recites:

The method of claim 7, wherein said first telephone number is a telephone number which was ported to said Internet Protocol network; and

wherein the advanced intelligent network service subscribed to by the called party is a call screening service which was subscribed to by said subscriber prior to said first telephone number being ported to said Internet Protocol network.

B. **Claim 18**

Applicant respectfully submits that claim 18 is further patentable over the White references which teach away from using an SCP to obtain IP routing information since it recites, in pertinent part:

The communications system of claim 17,
further including a second service control point coupled to said telephone switch, the second service control point including control logic for determining an Internet Protocol Address from said first telephone number in response to a message for a call processing instruction from said second telephone switch ...

III. Request for Clarification

If the Examiner persists in any of the rejections, Applicant respectfully requests that the Examiner further clarify the rejection and identify each of elements in the prior art which the Examiner contends correspond to the recited claim element.

In particular, what specific elements does the Examiner contend correspond to the first and second switches recited in claim 1?

What element does the Examiner contend in the White patent corresponds to the service control point which is contacted to obtain call routing information corresponding to the first telephone number and which returns Internet Protocol network routing information?

If the Examiner intends to rely on a combination of the Giuhat et al. patent and White patents please explain why one of ordinary skill in the art, based on the references, would be motivated to modify Giuhat et al. with a portion of the White patent rather than use the method described in the White patent for routing calls to an IP network, i.e., the Internet? What precise modification is the Examiner suggesting?

What benefit does the Examiner proposed combination of Giuhat et al. patent and White patent have over the method (Fig. 7) described in the White patent and where is this benefit taught in the art?

Assuming the Examiner identifies what he contends corresponds to the second switch recited in claim 1, where does one of the references describe providing an AIN service in response to a trigger set at the second switch which was provided prior to the telephone number being ported to an IP network?


IV. Conclusion

In view of the foregoing remarks, Applicant respectfully submits that the pending claims are in condition for allowance. Accordingly, Applicant requests that the Examiner pass this application to issue.

If there are any outstanding issues which need to be resolved to place the application in condition for allowance the Examiner is invited to contact Applicant's undersigned representative by phone to discuss and hopefully resolve said issues. To the extent necessary, a petition for extension of time under 37 C.F.R. 1.136 is hereby made, the fee for which should be charged to Patent Office deposit account number 07-2347.

Respectfully submitted,

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